

REMARKS

Claim 1 is amended to include the limitations of claim 8, which is now cancelled, and claim 12 is similarly amended with the limitations of claim 22, which is also now cancelled. The amendments are made for the purpose of expediting prosecution and not for patentability, and the claim cancellations are made without prejudice. Applicant reserves the right to pursue subject matter of the original claims (prior to amendment) and subject matter of the cancelled claims in subsequent prosecution. Reconsideration and allowance of the application are respectfully requested.

The arguments presented in the response filed May 12, 2005 are respectfully maintained, even though those arguments are moot in view of the new grounds of rejection.

The Office Action does not establish that claims 1-4, 6-8, 12-13, 15 and 20-22 are unpatentable under 35 USC §103(a) as being unpatentable over "Erickson" (U.S. Patent No. 5,970,142 to Erickson) in view of "IBM-RNG" (IBM Technical Disclosure Bulletin "Integrated Circuit Compatible Random Number Generator"). The rejection is respectfully traversed because the Office Action fails to show that all the limitations are suggested by the references.

Independent claims 1 and 12 as amended include limitations of counting a first number of oscillations of a first oscillator on the FPGA during a predetermined time interval; counting a second number of oscillations of a second oscillator on the FPGA during the predetermined time interval; and generating a ratio between the first number and second number of oscillations, wherein the ratio is a fingerprint that represents an inherent manufacturing process characteristic unique to the FPGA. These limitations are not suggested by either of Erickson or IBM-RNG.

Not only does IBM-RNG fail to suggest using the ratio of two oscillator counts as a fingerprint, but the teachings of IBM-RNG are opposed to the reason claims 1 and 12 use the ratio. As explained in paragraphs [0030] and [0031] of the present application the two oscillator counts and the ratio between the counts may be used to avoid fingerprint drift. In contrast, IBM-RNG's approach seeks to generate non-

deterministic random binary numbers and describes a jitter oscillator arrangement in combination with a feedback shift register. IBM-RNG's approach seeks to "only use the jitter oscillator output as a seed for a pseudo-random shift register, which is capable of high statistical quality" in order to avoid the deterministic qualities of a conventional feedback shift register approach, from which "it is possible to predict future or past results once the structure of the device and one output are known." Thus, the claimed use of the ratio of oscillator counts is clearly not suggested by IBM-RNG since the claimed ratio should be a deterministic value, as compared to IBM-RNG's non-deterministic value. Note that in the dependent claims the ratio/fingerprint is used for encryption.

Claims 2, 3, 4, and 7 depend from claim 1, and claims 13, 15, and 21 depend from claim 12 and are not shown to be unpatentable for at least the reasons set forth above.

The rejection of claims 1, 6-8, 12, and 20-22 over the Erickson-IBM-RNG combination should be withdrawn because the Office Action fails to show all the limitations are suggested by the combination.

CONCLUSION

Reconsideration and a notice of allowance are respectfully requested in view of the Amendments and Remarks presented above. If the Examiner has any questions or concerns, a telephone call to the undersigned is invited.

Respectfully submitted,



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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on October 19, 2005.

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